AUDIT OF SBA'S ACQUISITON, DEVELOPMENT AND IMPLEMENTATION OF THE JOINT ACCOUNTING AND ADMINISTRATIVE MANAGEMENT SYSTEM

AUDIT REPORT NUMBER 3-32

JUNE 30, 2003

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U.S. SMALL BUSINESS ADMINISTRATION OFFICE OF INSPECTOR GENERAL Washington, DC 20416

AUDIT REPORT

ISSUE DATE: June 30, 2003

REPORT NUMBER: 3-32

To:

Chief Operating Officer

Thomas A. Dumaresq Chief Financial Officer

Steven D. Galvan

Chief Information Officer

Through:

Lisa M. Goeas

Chief of Staff

From:

Robert Seabrooks

Assistant Inspector General for Auditing

Subject:

Audit of SBA's Acquisition, Development and Implementation of the Joint

Accounting and Administrative Management System

Attached is a copy of the subject audit report. The report contains six findings with two recommendations addressed to the Chief Operating Officer, five recommendations to the Chief Financial Officer, and nine recommendations to the Chief Information Officer. The Chief Financial Officer's and Acting Chief Information Officer's joint response to the draft report is synopsized in the report and included in its entirety at Appendix A. The Chief Operating Officer did not provide a response to the draft report because the position was vacant when the response was due. Accordingly, the recommendations addressed to the Chief Operating Officer will be addressed during the audit follow-up and resolution process.

The recommendations in this audit report are based on the conclusions of the Auditing Division. The recommendations are subject to review, management decision and action by your office in accordance with existing Agency procedures for audit follow-up and resolution.

Please provide us your management decision for each recommendation addressed to you within 30 days. Your management decisions should be recorded on the attached SBA Forms

1824, "Recommendation Action Sheet," and show either your proposed corrective action and target date for completion, or explanation of your disagreement with our recommendations.

Any questions or discussion of the findings and recommendations contained in the report should be directed to Robert G. Hultberg, Director, Business Development Programs Group at (202) 205-7577.

Attachment

AUDIT OF SBA'S ACQUISITION, DEVELOPMENT AND IMPLEMENTATION OF THE JOINT ACCOUNTING AND ADMINISTRATIVE MANAGEMENT SYSTEM

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SUMMARY

In October 2001, SBA implemented Phase I of the Joint Accounting and Administrative Management System (JA²MS) to replace SBA's Federal Financial System (FFS). JA²MS was part of the Systems Modernization Initiative (SMI) and SBA's intention was to procure a Commercial-Off-The-Shelf (COTS) product. SBA further decided that JA²MS would integrate SBA's business units such as finance, procurement, and human resource functions. JA²MS would be developed in three phases: (I) implement a financial accounting system to replace FFS, (II) integrate procurement and grants, travel, and human resource functions, and (III) implement a data warehouse capability. The JA²MS project was estimated to cost \$6.4 million when all three phases were expected to be implemented in FY 2002, however Phases II and III have been put on hold due to cost issues from Phase I.

The audit objectives were to determine whether: (1) the selection methodology and the supporting documentation indicated that the system selected would deliver the most functionality for the least cost, (2) there were adequate management controls over the process of acquiring and implementing JA²MS, and (3) the system performs as expected and meets user requirements.

The audit disclosed the following:

- SBA's Business Technology Investment Committee (BTIC) received biased and misleading information on costs, benefits, and alternatives on which to base its decision to select a new financial accounting system.
- The JA²MS selection process was not free of inherent bias or conflicts of interest towards one competing product because SBA did not require a separation of duties by contractors in the system selection process, system requirements collection process and the design and implementation phase of the JA²MS system.
- SBA did not implement the Oracle database management system that had been demonstrated and approved by the BTIC. Additionally, SBA purchased and bought license updates for software modules which it has never implemented.
- JA²MS was not fully accredited by the Chief Financial Officer (CFO) prior to being put into production at its permanent site. Additionally, other aspects of JA²MS may not allow for complete confidentiality of sensitive SBA personnel information.
- JA²MS was placed into production without sufficient and complete testing of functions and interfaces.
- JA²MS has not fully met JFMIP requirements, even though Oracle Federal Financials is certified as being JFMIP compliant. Additionally, JA²MS does not meet a number of major system requirements including many of the aspects of an Enterprise Resource Planning (ERP) system.

We made recommendations to the Chief Operating Officer (COO) to:

• Separate system recommendation activities from system design and implementation activities to ensure that the same entity does not perform duties with conflicting roles and responsibilities.

We made recommendations to the Chief Information Officer (CIO) to:

- Require that in the future, entities that prepare business case or cost benefit analysis documentation report directly to the CIO rather than the SBA sponsoring office.
- Create a quality control process to validate the estimations and projections in business case or cost benefit analysis.
- Update the SBA Systems Development Manual (SDM) to add emphasis that business case or cost benefit analysis must fully and fairly evaluate all competing alternatives, are written in a neutral manner so as not to unduly influence the BTIC, and contain cost and benefit estimations which are realistically and conservatively estimated and determined.

We made recommendations to the Chief Financial Officer to:

- Review the JA²MS procurement contract to determine if annual license fees for software purchased but not currently implemented can be suspended until the software is actually implemented.
- Seek monetary recovery from World Wide Technology, Inc., or an in-kind contribution of additional Oracle Discoverer licenses to compensate for the unusable Financial Analyzer software.

The Chief Financial Officer and Acting Chief Information Officer provided a joint response to the draft report. The Chief Operating Officer did not provide a response to the draft report as the position is currently vacant. Recommendations to the Chief Operating Officer will be resolved during the audit resolution process. Management agreed or partially agreed to all but three recommendations in the draft report. We subsequently modified two of our recommendations and dropped one recommendation to address management's concerns.

INTRODUCTION

A. Background

For a number of years, SBA utilized American Management Systems' (AMS) Federal Financial System (FFS) to provide administrative accounting capabilities. FFS performed this through several subsystems and system interfaces including budget, general ledger, NFC payroll interface, automated disbursements, accounts payable, accounts receivable, and travel.

The Department of Treasury (Treasury) Financial Management Service (FMS) operated FFS through a cross-servicing agreement with SBA and was responsible for maintaining the related software and hardware in Hyattsville, Maryland. In 1997, Treasury informed SBA that the Hyattsville data center would cease operations sometime in the future. By 1999, SBA began to explore alternatives to FFS as part of its Systems Modernization Initiative (SMI). In June 2000, Treasury informed SBA that FMS would cease its data center operations in September 2002.

As part of SMI, SBA began the Joint Accounting and Administrative Management System (JA²MS) initiative. JA²MS would be a Commercial-Off-The-Shelf (COTS) product to replace FFS. SBA further decided that JA²MS would integrate SBA's business units through Enterprise Resource Planning¹ (ERP) software. ERP was envisioned to control finance, procurement, and human resource functions. JA²MS would be developed in three phases: (I) implement a financial accounting system to replace FFS, (II) integrate procurement and grants, travel, and human resource functions, and (III) implement a data warehouse capability. The JA²MS project was estimated to cost \$6.4 million when all three phases were fully implemented in FY 2002.

The JA²MS development project was approved using Clinger-Cohen guidelines and SBA's Business Technology Investment Council (BTIC).

SBA hired SRA International (the Contractor) in 1999 to analyze SBA's current financial accounting capabilities and requirements, recommend a replacement system through a business case or cost and benefits analysis, and implement the system.

The Contractor presented a business case (e.g. cost benefits analysis) that documented the results of comparing four alternatives to the current FFS system. The four alternative packages analyzed were from Oracle Corporation, AMS, PeopleSoft and SAP. Oracle was rated highest and recommended as the COTS/ERP solution for JA²MS development. The recommendation to implement Oracle and outsource the hosting and maintenance was approved by SBA, and documented in the System Acquisition Decision Paper on June 26, 2000. The JA²MS business case provided analyses based upon all three phases of JA²MS being developed and implemented in the three-year projected time frame.

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¹ An integrated information system that serves all departments within an enterprise. Evolving out of the manufacturing industry, ERP implies the use of packaged software rather than proprietary software written by or for one customer. (Source: TechEncyclopedia).

SBA purchased Oracle Federal Financials from World Wide Technology, Inc. (a small disadvantaged business and a value-added reseller) off a GSA Multiple Award Schedule. SBA policies require the agency to contract with small disadvantaged business whenever practicable. SBA could have purchased the software directly from Oracle Corporation for \$60,728 less; however it chose to purchase from World Wide Technology, Inc. to show its support for small business.

SBA implemented JA²MS on October 1, 2001. However, due to the cost issues for implementing Phase I, which have exceeded the entire budget for full JA²MS implementation, Phases II and III have been put on hold.

B. Objectives and Scope

The objectives of the audit were to determine whether: (1) the selection methodology and the supporting documentation indicated that the system selected would deliver the most functionality for the least cost, (2) there were adequate management controls over the process of acquiring and implementing JA²MS, and (3) the system performs as expected and meets user requirements.

Fieldwork was performed in the Denver Finance Center and SBA Headquarters in Washington, DC, from September 2001 to September 2002. Fieldwork included review of documents, analytical procedures, and interviews with management, project staff and JA²MS users in different program offices. The audit was conducted in accordance with Government Audit Standards.

RESULTS OF AUDIT

FINDING 1 The BTIC Received Biased and Misleading Information for Selecting a Financial Accounting System

SBA's BTIC received biased and misleading information on costs, benefits, and alternatives on which to base its decision to select a new financial accounting system. This biased and misleading information included: (1) an SBA statement of work which reflected a predetermination to select a COTS/ERP software solution, (2) a JA²MS business case with wording which was heavily weighted towards emphasizing an ERP solution, (3) estimated benefits totaling \$7.89 million for four years in the business case which have not materialized, and (4) cost projections which were under estimated by \$7.7 million through FY 2002. This occurred because SBA had biased the business case analysis by emphasizing the need for an ERP. Additionally, there was no quality control processes over the documentation and project cost and benefit information the BTIC received and reviewed. As a result, the selection of a new financial accounting system was basically flawed because the outcome was pre-determined by the inherent bias and inaccurate supporting documents the BTIC received.

The Clinger-Cohen Act requires agencies to improve their acquisition of information technology by implementing efficient and effective capital planning processes for selecting, managing, and evaluating the results of all of its major investments in IT systems.

The three facets of capital planning are:

- Selection Select the IT projects that will best support mission needs and evaluate the project's costs, benefits and risks before spending significant amounts of money,
- Control Ensure that the projects deliver the projected benefits in accordance with the projected costs and time frames, and
- Evaluate Assess the project's impact on mission performance, modify the system to achieve maximum benefits, and revise the investment review process based on lessons learned.

Our review of SBA's attempt to utilize Clinger-Cohen capital planning requirements to make an informed large-scale Information Technology investment decision identified that SBA needs to revise the investment review process based upon lessons learned from JA²MS.

a. The SBA Statement of Work Reflected a Predetermination to Select a COTS/ERP Product

The SBA Office of Chief Information Officer (OCIO) issued a Statement of Work for JA²MS in September 1999 which directed the Contractor to recommend a COTS/ERP product. This occurred because SBA had predetermined the result which it desired. As a result, the business case or cost and benefits analysis was irrelevant to true system selection, but was used as an aid in influencing the BTIC and providing justification to OMB.

According to SBA's Systems Development Methodology, a cost and benefits analysis is to be performed on each competing alternative. The current system, proposed system, and each alternative system identified are described and their associated benefits and costs determined. These benefits and costs include developmental as well as operational (both one-time and recurring) costs.

The SBA Statement of Work contained the following wording:

The last decade has seen a remarkable evolution of Commercial-Off-The-Shelf (COTS) applications that automate the wide variety of business roles and activities inherent in an enterprise like SBA. Such systems are called Enterprise Resource Planning Systems (ERP)...The goal – particularly for the SBA who struggles to quickly balance the Agency's books – is to enable SBA's business units to operate in a totally integrated fashion. COTS/ERP software modules control finance, procurement, and human resource functions...<u>A COTS/ERP product will be recommended for selection at the end of phase I.</u>

The specific objective of this Task Order is to build a well-documented "Business Case" for the [JA²MS], from the point of view of the business areas in Human Resources, Procurement, the CFO and the CIO. The business case will document the business and technical need for the COTS/ERP product based on the SBA's primary functional requirements and will document the product evaluation methodology and approach used to arrive at the final COTS/ERP product. Substantive analyses on research and evaluation methods, alternatives, cost/benefits, etc., will also be included in the business case. The final recommendation in the business case will detail the strengths of the selected product and the anticipated outcomes of implementation.

It is clear from the Statement of Work that SBA did not ever desire that a valid cost and benefits analysis be performed on all competing alternatives including the existing system. From the beginning of the project, the contractor was expected to present results for a COTS/ERP.

b. Wording of the Business Case and System Decision Paper Emphasized the Need for an Enterprise Resource Planning System

The JA²MS Decision Paper and Business Case emphasized that SBA needed a COTS/ERP system to replace SBA's present financial accounting system. The wording from these two documents was heavily weighted towards emphasizing the need for an ERP. As a result, the JA²MS Business Case and resulting Decision Paper identified an incorrect picture of what benefits an ERP would generate for SBA if the recommended package was developed as SBA's new accounting and financial management package.

The following were the benefits identified in SBA's Business Case if an ERP was selected:

ERP Benefits – The implementation of an ERP would make SBA compliant with JFMIP requirements and give the organization a modern back-office infrastructure. This infrastructure is important to the SBA, as it provides the foundation for other systems modernization initiatives... Additionally, an ERP infrastructure will allow SBA to fully participate in e-commerce and customer relationship management activities – requirements for the SBA to realize its vision of becoming a leading-edge 21st century institution. It should be noted that while an ERP is integrated, no ERP solution offered 100% integration. Oracle will still need to integrate travel and contracts management. But this amount of integration is a significant improvement over the current baseline system.

In contrast, the wording in SBA's Business Case for keeping SBA's present financial and accounting system, upgrading that system and moving it to a different cross-service provider was:

Remaining with FFS dictates that SBA continue business as usual — paper-intensive processes, duplicative efforts, errors in data entry and computations, delayed responses, minimal risk management and internal controls, and the inability to satisfy numerous regulatory authorities. Through extensive benchmarking analysis, the [Contractor] revealed that SBA productivity was hampered by inefficient manual processes and redundant tasks. The time dedicated to operational and administrative support is at the expense of higher-level management functions such as decision support, investment, and risk management. Remaining with FFS is a low-risk, low-improvement approach that will not address SBA's core problems and inefficiencies.

The JA²MS Decision Paper documented SBA's approval for the JA²MS project and the selection of Oracle Federal Financials. The JA²MS Decision Paper identified the following:

The business owners desired a fully integrated system solution for addressing operational gaps in performing human resource, procurement, and financial management functions. The requirements for successfully performing integrated human resource, procurement, and financial management have changed dramatically. However, SBA's information systems have not been modernized to support JFMIP requirements.

The Contractor was hired to analyze the Agency's needs, define technical requirements, and evaluate integrated commercial-off-the-shelf enterprise resource planning products. The business case evaluated the baseline system against the JFMIP approved list of three products.

Remaining with the current system with a new cross-service provider would cost SBA \$6.3 million over six years. Whereas implementing the recommended solution would cost SBA \$11.1 million over the same six years.

The recommendation of the JA²MS working group was Oracle Federal Financials. The recommendation identified that implementing an ERP requires the sacrifice of near-term objectives for long-term gain.

The JA²MS decision was ultimately based upon the belief that SBA would attain the benefits identified in the business case. The current CFO indicated that none of the projected benefits have been realized. (See finding 1.c.)

c. Benefits of an ERP were Overstated

The SBA JA²MS Business Case overstated the projected benefits of implementing an ERP system. This occurred because there were no validity controls over the benefit estimation process to ensure that calculated benefits were realistic and possible when the new system was implemented. As a result, the projected benefits have not been realized and the underlying reasons for selecting an ERP system have not been attained.

The JA²MS Business Case provided an estimation of the benefits of three alternatives under consideration. For both ERP system alternatives, the benefits were estimated at \$1,517,000 in FY 2002 and \$2,127,000 per year thereafter. Increased efficiencies in the areas of Finance, Human Resources, Procurement, and Information Technologies would result in cost avoidance and dollar savings. SBA's current costs in these areas were compared to the lower costs of similar sized highly efficient businesses and government agencies. The projected benefits are summarized in Table 1.

Table 1
ERP Solution Benefits (\$000)

	FY02	FY03	FY04	FY05
<u>Finance</u>	430	860	860	860
Reduction in interest payments	20	40	40	40
Efficiencies in transaction processing	275	550	550	550
Budgeting	84	168	168	168
GL maintenance	24	48	48	48
Other financial processes	28	55	55	55
HR	121	241	241	241
Admin & Risk Mgmt	83	165	165	165
Employee Staffing & Selection	38	76	76	76
Procurement	60	120	120	120
Requisition & PO Processing	38	75	75	75
Problem Resolution	23	45	45	45
<u>IT</u>	906	906	906	906
Treasury-FFS	900	900	900	900
SACONS	6	6	6	6
Total	1,517	2,127	2,127	2,127

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Ultimately the benefits projected for the alternative that SBA selected, i.e., the ERP solution with outsourced maintenance, had no real support. The benefits were based on the premise that implementing the Oracle system would make SBA more efficient in the processing of its administrative expenses as compared to businesses and government agencies of its size (based on benchmarking results). The benefits, which were expected to reach \$2.1 million in FY 2003 and total \$7.89 million for four years were based on a percentage reduction in costs, but there was no clear description of how these cost reductions would be attained or how increased efficiencies would be achieved. Post-implementation feedback from the current Chief Financial Officer indicates that none of the estimated benefits have been attained since the system went into production.

d. Costs of an ERP System were Understated

The SBA JA²MS Business Case significantly underestimated costs to develop an ERP system, costs for system integration, as well as yearly costs to maintain the system. This occurred because there were no validity controls over the cost estimation process to ensure that the projected costs of the alternative systems were reasonable and realistic. As a result, the costs to develop the initial phase of the JA²MS system have been more than the entire projected costs of all three development phases.

As of June 2002, SBA spent \$14 million to develop and maintain JA²MS. The business case estimated that SBA would have spent \$6.4 million through FY 2002 and would have achieved significantly more functionality than what the previous system had delivered. As a result, JA²MS has been a more expensive system to build and maintain than estimated in the business case. A comparison of planned to actual costs is presented in Table 2.

Table 2 JA²MS Cost Variances

Fiscal Year	Projected	Actual Costs	Difference
	Costs		
1998	\$ 0	\$ 232,677	\$ 232,677
1999	\$ 0	\$ 964,704	\$ 964,704
2000	\$ 1,190,000	\$ 6,046,051	\$ 4,856,051
2001	\$ 3,137,000	\$ 4,417,785	\$ 1,280,785
2002	\$ 2,036,000	\$ 2,424,497	\$ 388,497
Totals	\$ 6,363,000	\$ 14,085,704	\$ 7,722,704

As can be seen from the table, SBA did not include costs incurred prior to FY 2000 in its cost projection, making the system appear less costly. Additionally, SBA underestimated the costs to maintain JA²MS. Maintenance includes training employees, Application Service Provider fees, consultant fees and annual licensing fees. The business case estimated annual maintenance costs at \$1.6 million annually. Actual maintenance costs are approximately \$2.7 million per year.

Recommendations:

FINDING 2 Conflicts of Interest in Selection and Implementation of a Financial Accounting System

The JA²MS selection process was not totally free of inherent bias or conflicts of interest towards one competing product. This occurred because SBA did not require a separation of duties by contractors in the system selection process, system requirements collection process and implementation phase of the JA²MS system. As a result, the system selected has been more expensive than competing alternatives and the benefits that were supposed to exist in the new system have not materialized.

The Federal Acquisition Regulation (FAR) addresses Organizational and Consultant conflicts of interest in Subpart 9.5. The underlying objectives are to prevent the existence of conflicting roles that might bias a contractor's judgment, and therefore prevent an unfair competitive advantage. The applicable rule in FAR is subpart 9.505-2 which specifies that if a contractor provides material leading directly, predictably, and without delay to a work statement, that contractor may not supply the system, major components of the system, or the system services.

While the contractor did not write a statement of work, the contractor was engaged in conflicting roles. By writing a business case and other materials leading directly and predictably to one of the competing alternatives, the contractor was able to recommend a system which may have maximized the contractor's involvement as compared to other alternatives which the contractor may have had less development and implementation work to perform.

a. JA²MS Implementation Plan Written Prior to the JA²MS Business Case

An initial JA²MS implementation plan was written in March 2000, prior to the JA²MS business case (April 2000). This initial JA²MS implementation plan identified that the software to be implemented would be Oracle Federal Financials. The JA²MS implementation plan also included a description of implementation methodology for the software, a work plan and a staffing schedule. After the initial JA²MS implementation plan, SBA had the same contractor write the JA²MS business case. The business case recommended that SBA implement Oracle Federal Financials after a review of the competing alternatives. As a result, the Contractor performed inherently conflicting roles in assessing the costs and benefits of the competing software products while having already planned for software implementation with one of the competing products.

According to SBA's Information Technology Investment Management (ITIM) Guide, a business case is to be developed once a potential need for a new system is determined. Additionally, SBA's Systems Development Methodology requires a cost benefit analysis be performed on each competing alternative. The current system, proposed system, and each alternative system identified should be described and their associated benefits and costs determined. These benefits and costs include developmental as well as operational (both one-time and recurring) costs.

The business case is required by OMB and recommended by GAO for making information technology decisions as a part of Clinger-Cohen guidelines. Therefore, the business case should be performed by an organization that has no obvious or potential inherent conflicts of interest. Since the business case makes projections as to future costs and benefits of a new system, compares the competing alternatives, and makes recommendations as to which alternative to select; it must be a totally objective document. Additionally, the organization that develops the business case must not have a financial stake in the outcome of the selection process. The ultimate selection of Oracle indicated that the contractor would be given further work in requirements collection and system implementation. Had a competing product been selected, this may have meant reduced work for the contractor, but a much lower ultimate system implementation and operational cost to SBA.

b. The same Contractor Collected System Requirements Documentation and Developed the System

System requirements documentation and systems development were performed by the same contractor. While these functions are not necessarily mutually exclusive, the contractor could have written system requirements in such a way as to bias the requirements to a certain product or software suite. Since this same contractor also wrote the JA²MS business case and had previously written a preliminary implementation plan for a particular product, this, therefore created a conflict of interest since the contractor had the ability to document requirements in a manner which would ultimately recommend a particular software solution. As a result, system requirements were ultimately biased towards one competing product which was ultimately selected.

While there are no laws or regulations which would prohibit the same contractor from collecting system requirements and designing and developing the system, such functions should be separated as the duties are quite different from each other. Generally, to avoid potential conflicts of interest and to ensure that system requirements and system design and development are performed by the contractor with the greatest expertise in each area, a separation should occur in these two vital areas.

Recommendations:

We recommend that the Chief Operating Officer:

- 2A. Ensure that for future systems developments efforts, SBA comply with Federal Acquisition Regulations regarding separation of contractor duties. Specifically, SBA should separate system selection activities such as preparation of a business case or cost and benefits analysis from development activities such as collection of system requirements, and system design and implementation.
- 2B. Revise the Information Technology Investment Manual (ITIM) to ensure that the same contractor is not used for system recommendation activities (including preparation of a business case) and system design and implementation activities.

Management Response:

SBA partially agreed with recommendation 2A. SBA agreed that separation of duties should be enforced under most circumstances. However, SBA disagreed that system requirements collection should be separated from system design and development, citing additional costs and the developer's need to verify requirements to ensure system functionality.

SBA partially agreed with recommendation 2B. SBA noted that the contract made with the developer to analyze SBA's financial accounting capabilities and recommend a replacement system was separate and distinct from the contract made with the same developer (through FEDSIM) to implement the system. SBA further noted that there was no guarantee that the developer would receive any contract award subsequent to its completion of a business case.

Assessment of Management's Response:

Management's comments are responsive to the recommendations. We modified recommendation 2A to allow system requirements to be collected by the same entity that designs and develops the system. We did not modify recommendation 2B because regardless of the number of contracts awarded, system recommendation and selection activities should not be performed by the same contractor who is designing and implementing the systems.

FINDING 3 Demonstrated JA²MS Database and all Software Purchased not Implemented

As a part of JA²MS, SBA did not implement the Oracle database management system that had been demonstrated and approved by the BTIC. Additionally, SBA purchased and bought license updates for software modules which it has never implemented. As a result, SBA has not achieved the functionality of the demonstrated system and has utilized a version of the system that is obsolete and unsupported by the vendor.

a. Planned Database and Application Release Not Implemented

The original documentation for purchasing and implementing JA²MS was for Oracle Applications release 11i and Oracle relational database version 8i as SBA's financial management system. However, SBA implemented Application release 11.0.3 and Oracle database version 8.0.5. According to SBA, this occurred because Oracle Applications Release 11i was not available during implementation and the database version 8i was not compatible with Application Release 11.0.3. As a result, SBA implemented an unsupported version of the Oracle database without a formal and documented assessment of the risks and potential adverse impacts on system development.

According to Federal Acquisition Regulation 46.501, acceptance constitutes acknowledgement that the supplies or services conform with applicable contract quality and quantity requirements.

Oracle Application Release 11.0.3 and database version 8.0.5 are older versions of Oracle Federal Financials and not the versions that were demonstrated, evaluated, and recommended for implementation. Additionally, this modification was not recorded in SBA change management procedures, nor reported to the BTIC. SBA's SDM requires that project management report changes to a Change Control Board (CCB) for approval and that procedures be established to ensure that changes are accomplished in an organized manner with absolute traceability and accountability. In actuality, the database version 8.0.5 was no longer supported by Oracle at the time of implementation, and therefore Oracle would no longer correct deficiencies in that software and make updates and patches available.

Documentation from Oracle identifies that the Oracle database 8i can be used with the 11.0.3 applications software if the UNIX server is properly partitioned.

SBA management has recently issued a solicitation for a new ASP/Cross service provider that will upgrade the software to 11i and host a stable and cost effective operational environment. The new contract will be for a base year with four optional yearly renewals.

b. Other Oracle Software Purchased and Not Implemented

SBA purchased Oracle software components totaling \$523,083 in FY 2000 which have not been utilized. This partially occurred because SBA has halted further JA^2MS implementation due to cost issues from implementing Phase I (the financial system). As a result,

SBA does not utilize over 33 percent of the dollar value of the software purchased. Additionally, SBA spent an additional \$65,061 for year 2002 license updates for these unused software programs.

Table 3 summarizes the costs of the unused software components that SBA has incurred since 2000.

Table 3
JA²MS Software Purchased and Not Implemented

Program	2001 License &Updates	2002 Update	Totals 2001 & 2002
Warehouse Builder	\$23,172	\$4,490	\$27,662
Express Server	\$73,966	\$14,331	\$88,297
Financials and Sales Analyzer	\$84,037	\$9,739	\$93,776
Human Resources	\$191,360	\$17,262	\$208,622
Advanced Benefits	\$90,052	\$11,508	\$101,560
HR Intelligence	\$56,283	\$7,192	\$63,475
Training Administration	\$4,216	\$539	\$4,755
Totals	\$523,086	\$65,061	\$588,147

The Oracle components that are not utilized include: Warehouse Builder, Express Server, Human Resources (HR), HR Intelligence, HR Training Administration and Financial and Sales Analyzer.

Recommendations:

We recommend that the Chief Information Officer:

- 3A. Inform the BTIC when large-scale development projects need to be materially altered during development.
- 3B. Perform a second-party review and analysis of proposed changes to large-scale development projects when those changes would materially affect the system under development.
- 3C. Ensure full and proper configuration management and change control in future large-scale development efforts.

We recommend that the Chief Financial Officer:

3D. Review the JA²MS procurement contract to determine if annual license fees for software purchased but not currently implemented (equaling \$65,061 in FY 2002) can be suspended until the software is actually implemented.

Management Response:

SBA agreed with the recommendations. For recommendation 3D, SBA considers the issue a contracting and legal issue and will refer it to SBA's Office of Procurement and Grants Management and the Office of General Counsel for resolution.

Assessment of Management's Response:

Management's comments are responsive to the recommendations.

Finding 4 JA²MS System Security does Not Fully protect SBA

 JA^2MS was not fully accredited prior to being put into production. Additionally, other aspects of JA^2MS may not allow for complete confidentiality of sensitive SBA personnel information. These security issues are part programmatic, part structural and part issues with the Oracle software. As a result, the JA^2MS system is not fully secure and potential breaches of security could occur and go undetected.

a. JA²MS was Not Timely Authorized to Process Information

SBA initially conducted an interim Certification and Accreditation (C&A) review prior to putting JA²MS into production at a temporary application service provider (ASP) in October 2001. However, this was a conditional C&A and was supposedly valid for only 180 days or until the system was transferred to the permanent ASP. A full C&A was not finalized prior to placing the system into production at the permanent site. As a result, the JA²MS system operated without a valid accreditation for almost one year and the vulnerabilities and their associated remedial actions were not known and corresponding corrective actions not timely undertaken for that time frame.

OMB Circular A-130, Appendix III requires that computer systems be certified and accredited before being put into production. Additionally, the C&A process mandates that a security plan and a risk assessment are performed before the system is implemented.

The C&A was finalized for JA²MS at the permanent ASP almost one year after the system was transferred to the permanent site. Overall risk exposure was rated as high, and recommendations were made for changes that, if implemented, would reduce overall system risks to low. Some of the risks identified were exactly the same risks as when JA²MS was operated at the interim ASP. The continuing existence of these risks indicates that sufficient attention has not been paid to JA²MS security.

b. [FOIA Ex. 2]

c. System Audit Trails and Logging are Not Enabled

Audit trails and logging are not enabled in the JA²MS system environment. According to OCFO this is because the system slows down considerably beyond what is reasonable when audit trails are enabled. However, from discussions with OCFO and OCIO, we believe that this is due to not choosing to log and audit only those security relevant events and items that should be necessary to identify if a perpetrator is trying to mis-use the system or enter potentially fraudulent transactions.

According to the JFMIP framework, financial management systems in the federal government must be designed to provide a complete audit trail to facilitate audits.

Audit trails are a necessary security component because they provide records of access and changes to system records, and are a mechanism to ensure user accountability. Without an adequate system of audit trails, sufficient information is not gathered to perform investigations of security incidents and for ongoing monitoring of user activities. This issue was previously made known to SBA in an OIG memorandum on October 9, 2001. The SBA CIO and CFO responded to OIG that audit trails would be enabled for JA²MS in the 2nd quarter of FY 2002. However, as of December 15, 2002, audit trails have yet to be implemented in JA²MS.

Recommendations:

We recommend that the Chief Information Officer:

4A. Complete Certification and Accreditation reviews prior to placing new SBA major applications and general support systems into production.

We recommend that the Chief Information Officer in conjunction with the Chief Financial Officer:

- 4B. Work with the vendor for Oracle Federal Financials to create an alternate identifier for SBA personnel to ensure that employee SSN's are not visible or accessible to users.
- 4C. Determine what actions and events to audit and enable the JA²MS audit trails for those actions and events.

Management Response:

SBA agreed with the recommendations. SBA noted that recommendation 4C has already been implemented.

Assessment of Management's Response:

Management's comments are responsive to the recommendations.

Finding 5 System Testing Prior to Implementation was Not Adequate

JA²MS was placed into production without sufficient and complete testing of functions and interfaces. This occurred because SBA was committed to placing JA²MS into production on its scheduled implementation date. As a result, processing errors and user confusion prevented JA²MS from operating as intended. Additionally, some of these problems could have been mitigated by running JA²MS in parallel with FFS.

a. Some JA²MS System Components Failed Testing of Functions and Interfaces

JA²MS System testing was not completed successfully prior to system implementation. There was evidence that many tests failed while others were not performed at all. However, SBA was committed to implement JA²MS by October 1, 2001 and allowed the system to be placed into production with errors and defects. As a result, users experienced errors and considered the system unreliable.

The SBA System Development Methodology (SDM) requires successful testing of the complete system, including all the functions and all the logic paths of each software module.

Several interfaces were not completed by the system activation date, however, the system was placed into production and the contractor continued working to complete the interfaces. The interfaces that were not fully complete and tested were:

- Bank of America,
- Federal Express, and
- USDA National Finance Center Payroll.

Additionally, the year-end closing process had not been tested. The Bank of America and Federal Express interfaces caused problems to users early in system production and the first Year-end close (October 2002) took over a week to accomplish. These problems might have been avoided had the system been fully tested prior to putting it into production.

b. An Independent Verification and Validation was Not performed

There was no Independent Verification and Validation (IV&V) or project audit for JA²MS. This occurred because of SBA's insistence on implementing JA²MS by its planned implementation date. Additionally, the costs of implementing JA²MS exceeded its planned budget. As a result, the JA²MS system experienced major problems early on, some of which remain uncorrected, and can be partially attributed to the lack of an IV&V.

The SBA SDM requires the independent verification and validation of software testing results by a third party.

SBA's Quality Assurance policy for IT projects specifies that independent and objective verification of project results be performed. An independent reviewer is more likely to be impartial than a reviewer or a contractor with a vested interest in the project.

Recommendation:

We recommend that the Chief Information Officer:

5A. Ensure that newly developed large-scale major applications and general support systems are fully tested before implementation and that an Independent Verification and Validation review is performed after system testing but prior to placing system into production.

Management Response:

SBA agreed with the recommendation.

Assessment of Management's Response:

Management's comment is responsive to the recommendation.

Finding 6: JA²MS is Not Fully JFMIP Compliant and does Not Meet System Requirements

JA²MS does not fully meet JFMIP requirements, even though Oracle Federal Financials is certified as being JFMIP compliant. Additionally, JA²MS does not meet a number of major system requirements including many of the aspects of an ERP. This has negated many of the initial reasons that JA²MS was selected to be SBA's financial system. As a result, SBA has a system that does not meet its requirements, nor perform as expected.

According to the JFMIP framework, financial management systems in the federal government must be designed to:

- Collect accurate, timely, complete, reliable, and consistent information;
- Provide for adequate agency management reporting;
- Facilitate the preparation of financial statements, and other financial reports in accordance with federal accounting and reporting standards; and
- Provide information to central agencies for budgeting, analysis, and government-wide reporting, including Consolidated Financial Statements.

a. A JA²MS Feature does Not Adequately Report the Results of Financial Operations

SBA purchased a financial reporting system called "Financial Analyzer" for \$93,776 from World Wide Technology, Inc. Financial Analyzer proved to be unstable and unreliable. As a result, SBA abandoned using it for reporting purposes. However, we could not determine whether SBA ever tried to gain a refund for this non-functioning software.

A second tool for financial reporting called "Discoverer" has been used to create budgeting and other accounting reports. However, SBA users cannot produce needed financial reports on demand as there are only ten user licenses and the software is not web-enabled.

b. JA²MS Automatically Initiated a Number of Duplicate Payments

During FY 2002 four duplicate payments totaling over \$278,000 were initiated by the JA²MS system. One of the recipients notified SBA and three other duplicate payments were then identified by the Denver Finance Center. System edits which should have identified and prevented this situation did not perform as expected.

c. Certain Transactions and Vendor Identifiers Cannot be Modified in JA²MS

Requisitions and purchases which have been approved cannot be modified in JA^2MS . SBA has been creating a new document with virtually the same voucher or ID number with a letter or numeral appended to the document number. For changes to vendor identifiers (names or addresses), a monetary amount is required to be entered with the change to the vendor identifier. SBA has been adding one cent with the change to the vendor file. This amount will stay outstanding and need to be closed within JA^2MS at the end of the year.

d. JA²MS does Not Always Successfully Cancel a Transaction

Purchase orders and other requisitions are not always successfully cancelled within JA²MS. When a number of transactions were cancelled, the system did not automatically de-obligate funds and return the transaction to the requisition phase. SBA personnel have had to research the entire general ledger within JA²MS and ensure that the transaction cancellation successfully de-obligated funds. This has caused SBA offices to keep track of their spending and budgeting with spreadsheets and other cuff-records.

e. Funds Verification is Slow

JA²MS does not timely verify the availability of budgeted amounts against potential expenditures when entering purchase orders or requisitions. The JA²MS system queries all budget groups and for all time periods, not just the ones entered for verification. As a result, the funds verification can take from several minutes to half an hour to complete one transaction.

JA²MS usefulness to managing funds on a day-to-day basis is therefore deficient and does not measure up to providing the information necessary to operate SBA efficiently and effectively. Therefore, JA²MS utility is marginal at best and it has a number of functional shortcomings that make it a poor choice for today's financial management needs. The software that has never been implemented should be returned and a refund sought from the vendor.

Recommendations:

We recommend that the Chief Financial Officer:

- 6A. Seek monetary recovery from World Wide Technology, Inc. for \$93,776, or an in-kind contribution of additional Oracle Discoverer licenses to compensate for the unusable Financial Analyzer software.
- 6B. Enable users to make dollar or non-dollar modifications to spending documents without the creation of a new record.
- 6C. Follow-up with Oracle to ensure that JA²MS is corrected so that finally closing documents result in the restoration of funds.

We recommend that the Chief Financial Officer in conjunction with the Chief Information Officer:

6D. Determine if funds checking can be expedited in the current JA²MS hardware or software configuration.

Management Response:

[FOIA Ex. 5]

Assessment of Management's Response:

Draft recommendation 6B was deleted from the report after we determined the condition had been corrected prior to issuance of the draft report. Management's comments are responsive to all of the other recommendations.

United States Government SMALL BUSINESS ADMINISTRATION



Date:

June 18, 2003

To:

Robert Seabrooks, Assistant Inspector General for Auditing

From:

Thomas A. Dumaresq, Chief Financial Officer, Yeur

Lawrence Barrett, Chief Information Officer (A)

cc:

Blake Isaacson, Senior Advisor to the Deputy Administrator

Subj:

Response to the OIG's Draft Report - Audit of the JA2MS Acquisition,

Development and Implementation

This is a joint response to the OIG draft report of the audit of the Acquisition, Development and Implementation of the Joint Accounting and Administrative Management System (JA²MS).

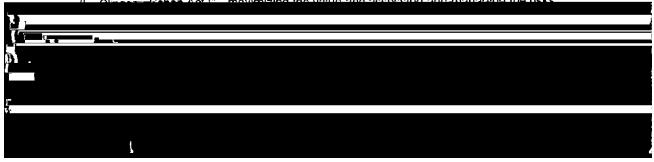
The comments that are provided in this letter are primarily from the Office of the Chief Information Officer and the Office of the Chief Financial Officer. Since the position of the Chief Operating Officer (COO) is currently vacant, the COO's office reserves the right to provide comments on this audit when the new COO is on board.

Generally, we agree with most of the OIG findings. It is the Agency's strong belief that all procurement actions, referred to in the IG's audit, were in compliance with the Federal Acquisition Regulation and the Federal Acquisition Streamlining Act. Our response regarding the specific recommendations made to the COO, CFO and CIO is listed below.

Recommendation 1A: We recommend that the Chief Operating Officer (COO): Revise the Investment Technology Investment Manual (ITIM) to ensure that in future large scale system development projects that:

- The contractor or Government entity that prepares the business case or cost benefits analysis works directly for the BTIC or the COO rather than the SBA sponsoring office,
- A quality control process is created whereby a second entity not associated with the
 originator of the business case or cost benefit analysis validates the estimations that
 are used to ensure accuracy of the projections and estimates.

Agency Response: We partially disagree with this recommendation. The broad, overall responsibility for implementing an IT investment management process compliant with



managed in accordance with the Act's provisions and in line with the Agency's priorities. Since the CIO organization manages the IT capital planning process within SBA and has developed a risk adjusted cost-benefit analysis methodology to use in support of the BTIC, we recommend that the CIO, or his designee, oversee the business case contractor(s) to ensure that analyses performed to document benefits, costs and risks are done uniformly and according to a preferred method. Otherwise, there is no assurance that contractor developed business cases will be reliable, accurate and easily reviewed among competing projects.

Finally, we believe that stronger enforcement of existing capital planning business case requirements, as defined annually by OMB, would resolve many of the problems noted in this audit. For example, a properly developed business case for a developmental IT project must be reviewed by the agency's senior IT review board (the BTIC at SBA), must be approved by the senior acquisition official, must include the date of the most recent cost-benefit analysis, and must include a comprehensive risk assessment plan. We believe that if these requirements are followed rigorously and the responsible officials carry out their respective roles diligently, problems related to managing complex IT procurements would diminish.

Recommendation 1B: We recommend that the Chief Information Officer: Update the Systems Development Manual to mandate that in future large scale system development projects that:

- Contractor Statements of Work for the business case or cost benefits analysis emphasize the need to fully and fairly evaluate all competing alternatives,
- The narrative descriptions of the business case or cost benefits analysis are
 prepared with wording and factual representations as neutral as possible so as not to
 unduly bias the BTIC when making IT investment decisions, and
- The business case or cost benefits analysis contains only valid and supportable numerical projections of costs and benefits which are realistically and conservatively estimated and determined.

Agency Response: We partially agree with this recommendation. As noted above, we believe that cost-benefit analytics should be described in both the Systems Development Methodology and Information Technology Investment Manual as appropriate to each document. We also suggest that this set of recommendations be further bolstered by requiring that basic Earned Value Management methods be applied to all major IT investments so that *planned vs. actual* cost, schedule and performance information is reported to SBA project managers. (This parallels current OMB guidance for the FY 2005 budget and IT investment development process.)

For purposes of the discussion regarding SBA's drive to select an ERP product on page 4 paragraph b and in several other places in the document, it is important to clarify that the FFMIA and other governing documents at the time pushed agencies in the direction of "fully integrated" financial systems – a requirement that, by definition, only ERP solutions fulfilled. On January 4, 2001, however, OMB published a revision to its FFMIA guidance. This revision, subsequent to SBA's decision to purchase Oracle, significantly relaxed the ERP requirement. It permitted agencies to fulfill the "integrated" requirement by retaining a variety of legacy or best-of-breed systems through interfaces. This OMB guidance was received after the JA²MS project was well underway and could have potentially influenced the JA²MS decision if received earlier.

Recommendation 2A: We recommend that the Chief Operating Officer: Ensure that for future systems developments efforts, SBA comply with Federal Acquisition Regulations regarding separation of contractor duties. Specifically, SBA should separate system selection activities such as preparation of a business case or cost and benefits analysis, collection of system requirements, and system design and implementation.

<u>Agency Response</u>: We partially agree with the recommendation. We agree that SBA project managers, except under very unusual circumstances, should not use the same contractor both for developing the business case and for procuring and implementing the system. However, separation of contractor roles will not guarantee that the problems encountered in the JA²MS project will not happen again. It will increase the costs and add delays if we separate requirements from design and development. The design and development contractor must verify the requirements and will always find problems with the business case and/or the requirements analysis, making it not their fault if the system does not function as needed.

Recommendation 2B: We recommend that the Chief Operating Officer: Revise the Information Technology Investment Manual (ITIM) to ensure that the same contractor is not used for: system selection activities including preparation of a business case, collection of system requirements, and system design and implementation.

<u>Agency Response:</u> We partially agree with the recommendation. The ITIM should be modified to encourage project managers to be aware of the potential problems of using the same contractor for developing the business case and implementing the solution.

Clarification is provided on the role of SRA International (SRA) as discussed in several areas, principally in Finding 2 and on page 1 paragraph 5. The report states that "SBA hired SRA in 1999 to analyze SBA's current financial accounting capabilities and requirements, recommend a replacement system through a business case or cost and benefits analysis, and implement the system." Although the report presents it in this way, it is important to note that these tasks were not all part of a single contract. The contract for implementation services was executed as a separate contract through GSA's FEDSIM well after the business case was completed, and there was no implied or explicit guarantee that SRA would receive any subsequent contract award after its completion of the business case contract.

The procurements were treated separately with the implementation services contract issued by FEDSIM contracting officers. FEDSIM ran the procurement and supplied the contracting officer. We believe that the process was handled in accordance with applicable procurement rules.

Furthermore, SRA did not supply the software for the system. SBA separated the recommendation from the actual software purchase, for which the agency used a different vendor.

Recommendation 3A: We recommend that the Chief Information Officer: Inform the BTIC when large-scale development projects need to be materially altered during development.

<u>Agency Response:</u> We agree with the recommendation. We will revise ITIM and SDM to require project managers to notify the CIO when large-scale development projects need to be materially altered during development. The CIO will provide a report to the BTIC.

<u>Recommendation 3B:</u> We recommend that the Chief Information Officer: Perform a second-party review and analysis of proposed changes to large-scale development projects when those changes would materially affect the system under development.

<u>Agency Response:</u> We agree with the recommendation. We will revise ITIM and SDM to require project managers to notify the CIO when proposed changes to large-scale development projects would materially affect the system under development. The CIO would then conduct a review and analysis of the proposed changes and provide a report to the BTIC.

Recommendation 3C: We recommend that the Chief Information Officer: Ensure full and proper configuration management and change control in future large-scale development efforts.

Agency Response: We agree with the recommendation.

Recommendation 3D – We recommend that the Chief Financial Officer: Review the JA²MS procurement contract to determine if annual license fees for software purchased (but not currently implemented) can be suspended until the software is actually implemented.

<u>Agency Response</u> – We agree with this recommendation. However, Oracle has informed us that if the Agency were to receive a refund for unused software, but at a later date chose to implement these products, SBA would have to pay all licensing fees for the intervening period. The OCFO and OCIO considers this to be a contracting and legal matter and will refer it to the OPGM and OGC for resolution.

Recommendation 4A: We recommend that the Chief Information Officer: Complete Certification and Accreditation reviews prior to placing new SBA major applications and general support systems into production.

Agency Response: We agree with the recommendation.

Recommendation 4B - F

FOIA Exemption 2

Agency Response - L

FOIA Exemption a

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Recommendation 4C – We recommend that the Chief Information Officer in conjunction with the Chief Financial Officer:

Determine what actions and events to audit, and enable the JA2MS audit trails for those actions and events.

Agency Response - We agree with the recommendation and the recommendation already has been completed. Since October of 2002, the SBA has enabled "Forms Level Auditing" within the Oracle product, allowing us to track all users who have entered and exited a form. In May of 2003, the SBA additionally enabled the "Database Auditing" function, allowing the monitoring of important activities (data changes) by programmers who have access to the production instance.

Recommendation 5A: We recommend that the Chief Information Officer: Ensure that newly developed large-scale major applications and general support systems are fully tested before implementation and that an Independent Verification and Validation review is performed after system testing but prior to placing system into production.

Agency Response: We agree with the recommendation.

Recommendation 6A - We recommend that the Chief Financial Officer: Seek monetary recovery from World Wide Technology, Inc. or an in-kind contribution of additional Oracle Discoverer licenses to compensate for the unusable Financial Analyzer software.

Foia Exemption 5 Agency Response - [

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Recommendation 6B - We recommend that the Chief Financial Officer: Determine what actions are needed to enable the system to recognize and differentiate fund types and their corresponding accounting treatment.

Agency Response - We don't understand this finding. Our general ledger, transaction codes and budget/accounting strings are all based on fund type. Thus, we are unclear on what the OIG is referring to here and request additional clarification on this issue.

Recommendation 6C - We recommend that the Chief Financial Officer: Enable users to make dollar or non-dollar modifications to spending documents without the creation of a new record.

Agency Response - We agree with this recommendation and it already has been completed. In January of 2002, the Oracle system was modified to allow zero dollar modifications to documents.

Recommendation 6D - We recommend that the Chief Financial Officer: Follow-up with Oracle to ensure that JA2MS is corrected so that finally closing documents results in the restoration of funds.

Agency Response - We partially agree with this finding and it already has been completed. The issue raised in the report is a user training issue, not a systems issue. In the beginning, many users were picking the wrong option of "Close". This option does not release the funds and it is not intended to release funds. It is only supposed to keep

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